

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Indian Camp Creek

Water Body Segment at a Glance:

County(ies):	Warren and St. Charles
Nearby cities:	Wright City and Foristell
Length of impaired segment:	5.0 miles
Length of impairment within segment:	0.3 miles
Pollutants:	Inorganic sediment
Listed Source:	JZ Landfill
Water body ID:	212



State map showing location of watershed

TMDL priority ranking: TMDL Approved by EPA on Feb. 25, 2010

~~Scheduled for TMDL development:~~ 2009

Description of the Problem

Beneficial designated uses of Indian Camp Creek

- Livestock and wildlife watering
- Protection of warm-water aquatic life
- Protection of human health (fish consumption)

Use that is impaired

- Protection of warm-water aquatic life

Standards that apply

Missouri has no numeric criterion for inorganic sediment. Excessive deposits of sediment in waters of the state are interpreted as violations of the general criteria of Missouri's water quality standards. The Missouri water quality standards for general criteria [10CSR20-7.031(3)] state that:

- (A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
- (C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;

- (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.

Background information and water quality data

The inorganic sediment pollutant replaces previous 303(d) listings of Indian Camp Creek as being impaired by nonvolatile suspended solids. Since nonvolatile suspended solids and inorganic sediment have essentially the same meaning, the listing was changed to inorganic sediment to better characterize the impairment, but the two terms may be used interchangeably. The data used to identify the pollutant has not changed. Inorganic sediments are mineral particles such as clay, silt, sand, assorted sized pieces of rock and other non-organic materials. These particles usually enter streams via erosion of soils and other materials from the surface of the land. This additional sediment is harmful to aquatic life because it covers the streambed resulting in the reduction of spawning habitat for fish and the smothering of fish eggs and small aquatic organisms.

Indian Camp Creek was placed on Missouri's 303(d) list of impaired waters for excessive inorganic sediment primarily based on best professional judgment since no sediment data exists to directly document sediment impacts to this stream. Observations made in the 1990s of fine mineral sediments being deposited into the creek, as well as general fisheries data and the effects of sediment on fish, were the initial data used to consider Indian Camp Creek for 303(d) listing. Since the stream's initial 303(d) listing in 1998, the department has developed a protocol to determine if sediment is actually a pollutant in the listed streams and to arrive at a standard way to measure sediment. The first step of the protocol is a biological assessment to determine if the biological community is impaired. However, a biological assessment for Indian Camp Creek has not been completed.

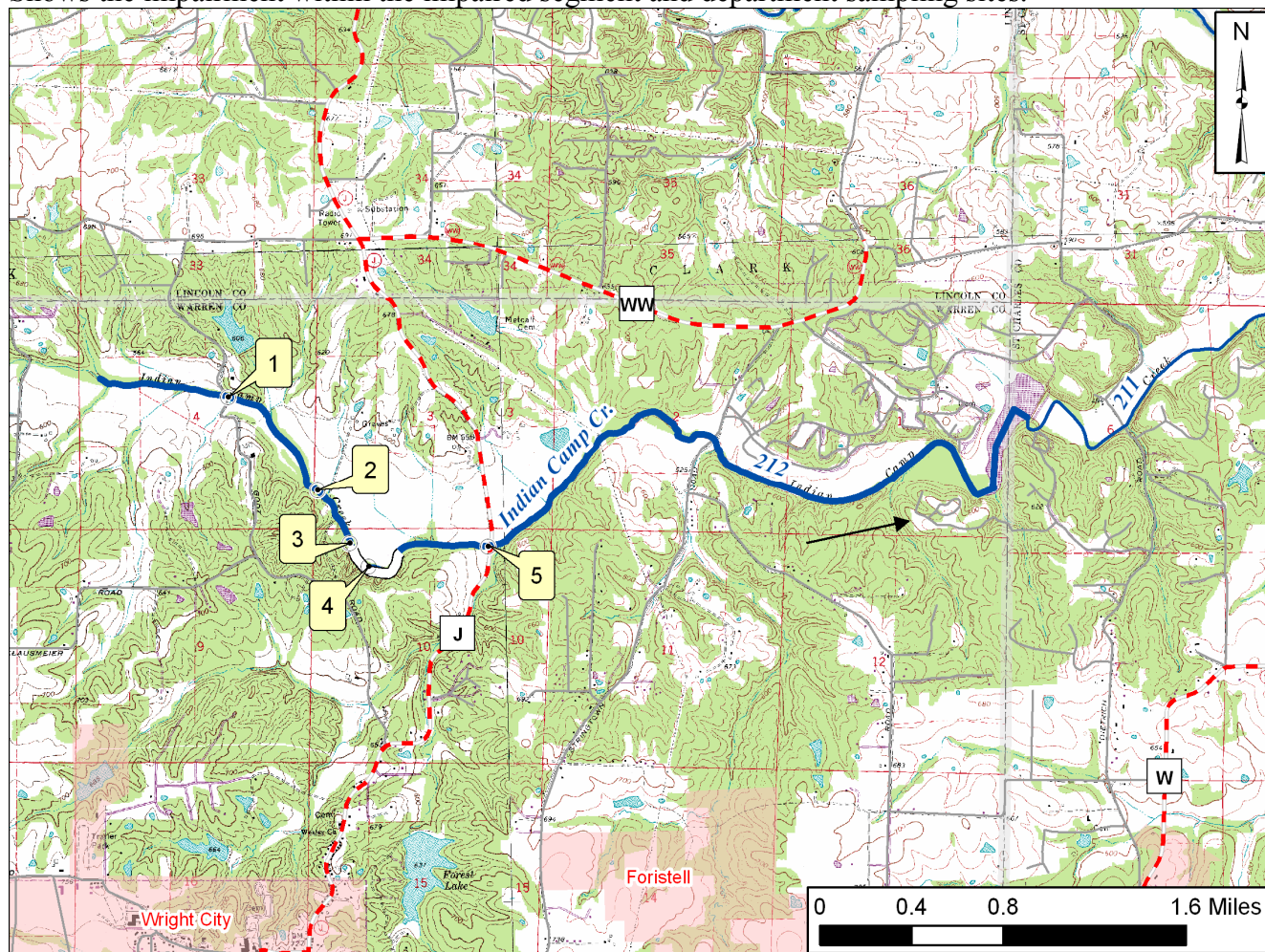
On Missouri's 2004/2006 303(d) list of impaired waters, the source of Indian Camp Creek's inorganic sediment impairment is attributed to the JZ Landfill. The JZ Landfill is one of three closed landfills located on high ground just south of Indian Camp Creek. In the spring of 2004, the Department of Natural Resources conducted a study of sediment deposition in this portion of Indian Camp Creek. Results of the study indicate fine sediment deposition rates into the creek from areas adjacent to the JZ Landfill are no greater than other adjacent areas of the stream (Table 1). For this reason, although the JZ Landfill is listed as the source for the impairment, additional point and nonpoint sources of sediment loading within the watershed, including agricultural sources, should be considered.

Percent Fine Sediments in areas of Indian Camp Creek near JZ Landfill – 2004

<i>Location</i>	<i>Percent Fine Sediments</i>
Indian Camp Cr. upstream of all landfills	51
Indian Camp Cr. adjoining the JZ Landfill	30
Indian Camp Cr. downstream of JZ and adjoining other landfills	48

Map of Indian Camp Creek in Warren County, Mo.

Shows the impairment within the impaired segment and department sampling sites.



——— Area of Impairment —————> Direction of flow

Sample Sites

- | | |
|----------------------------|------------------------------|
| 1 – Godt Road crossing | 4 – Just below JZ Landfill |
| 2 – Private drive | 5 – State Highway J crossing |
| 3 – Just above JZ Landfill | |

For more information call or write:

Missouri Department of Natural Resources

Water Protection Program

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Program Home Page: www.dnr.mo.gov/env/wpp/index.html

NOTE: The U.S. Environmental Protection Agency approved this TMDL on Feb. 25, 2010